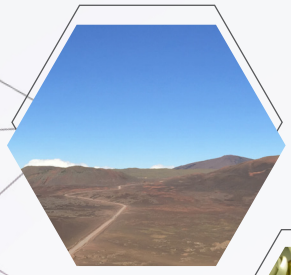
BOOK OF ABSTRACTS
POSTERS

Island BIOLOGY



La Réunion
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Predictive habitat models integrating anthropic pressures to aid conservation of a rare species on Reunion island, the Mascarene petrel

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Conservation planning requires the identification of habitat that may support focal species, and an assessment of how to prioritise lands to protect sustainable populations. Because conservation plans often guide the allocation of limited resources in the face of habitat loss, there is little room for error in the prioritisation process. However, incomplete information on the distributions of species and habitats makes prioritisation an enormous challenge, particularly if surveys cannot be conducted due to land inaccessibility or other constraints. The use of predictive habitat distribution models by land managers in the conservation management of threatened species is therefore increasing. Reunion Island (western Indian Ocean) is one of the few islands at global scale holding two endemic species of petrels, the Barau's Petrel (*Pterodroma baraui*), and the Mascarene Petrel (*Pseudobulweria aterrima*), both of which are poorly known and endangered. The principal threats to both species are introduced mammalian predators (rats and feral cats) and light pollution. In this study, we focused on the very rare Mascarene petrel whose remained mysterious for 160 years. Thanks to the recent discovery of breeding sites in 2016, it is vital, to face conservation urgency, to quickly identify all potential breeding areas and engage actions at a broader scale. Thus, we used environmental parameters mixed with anthropic pressures (predators density and level of invasive plants) to investigate and model the distribution of suitable habitat of this rare and endemic species. Predictive distribution maps revealed habitat refuges suggesting a high sensitivity of the species to anthropogenic pressures. This approach is very helpful for long-term management to 1) identify priority conservation areas, 2) design concrete actions to be implemented according to the environmental / anthropic characteristics of the habitat.

Keywords: habitat modeling, endangered species, endemic species, conservation, tropical island

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